

CLAIMS

1 A bore cutting tool having a cutting edge, a rake face extending from one side of the cutting edge, and a non-cutting surface, wherein the rake face is at least partially coated but at least part of the non-cutting surface is not coated.

10 2 A bore cutting tool according to Claim 1, wherein all of the non-cutting surface is not coated.

3 A bore cutting tool according to Claim 1 or Claim 2, having a plurality of non-cutting surfaces, wherein at least part of some or all of the non-cutting surface is not coated.

4 A bore cutting tool according to any one of Claims 1 to 3, including a back face extending from the opposite side of the cutting edge to the rake face, wherein the back face is not coated.

5 A bore cutting tool according to any one of the preceding Claims, wherein the rake face is fully coated.

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6 A bore cutting tool according to any one of the preceding Claims, wherein only the rake face is coated.

7 A bore cutting tool according to any one of the preceding claims, wherein the tool has two rake faces

30 8 A bore cutting tool according to claim 7, wherein both rake faces are coated.

9 A bore cutting tool according to any one of the preceding Claims, wherein the bore cutting tool is a drill.

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10 A bore cutting tool according to Claim 9, wherein the bore cutting tool is a twist drill.

11 A twist drill according to Claim 10, including at 10 least one flute and at least one land, wherein at least part of the or each land is uncoated.

12 A twist drill according to Claim 11, wherein at least part of the flute is uncoated.

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13 A twist drill according to Claim 11 or Claim 12, having a number of flutes selected from 2, 3 and 4 flutes.

20 14 A bore cutting tool according to any one of the preceding claims, wherein the coating is a wear resistant coating.

25 15 A bore cutting tool according to Claim 14, wherein the coating is selected from TiN, Y<sub>i</sub>AlN, TiCN, TiAlN and AlTiN.

30 16 A bore cutting tool according to any one of the previous claims, wherein the tool is made of a material selected from HSS, HSCo, HSCoXP and solid carbide.

17 A bore cutting tool according to any of the previous claims, wherein the coating thickness is in the range of

0.5 to 50  $\mu\text{m}$ .

18 A bore cutting tool according to Claim 15, wherein the coating thickness is in the range of 2 to 10  $\mu\text{m}$ .

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19 A bore cutting tool according to any one of the previous claims, wherein the coating is applied by physical vapour deposition.

10 20 A bore cutting tool according to any one of the preceding claims, wherein the coating is applied by using a mask to prevent coating of the uncoated parts.

15 21 A method of partially coating a bore cutting tool, the tool having a cutting edge, a rake face extending from one side of the cutting edge, and a non-cutting surface, wherein the method includes the step of at least partially coating the rake face but not coating at least part of the non-cutting surface.

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22 A method according to Claim 21, wherein the tool includes a back face extending from the opposite side of the cutting edge to the rake face, the method including the step of not coating at least part of the back face.

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23 A method according to Claim 21 or Claim 22, including the steps of masking those areas that are to remain uncoated but leaving the rake face exposed, and coating the masked bore cutting tool.

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24 A method according to Claim 23, wherein at least part of the non-cutting surface is masked.

25 A method according to Claim 23 or Claim 24, wherein at least part of the back face is coated.

26 A method according to any one of Claims 21 to 25,  
5 wherein the coating is applied by physical vapour deposition.

27 A method according to any one of claims 21 to 26, wherein the bore cutting tool is a drill.